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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/700,512	11/05/2003	Pushpito Kumar Ghosh	3095-009	5938

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EXAMINER

MENON, KRISHNAN S

ART UNIT PAPER NUMBER

1723

DATE MAILED: 10/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/700,512

Applicant(s)

GHOSH ET AL.

Examiner

Krishnan S. Menon

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 43-73 is/are pending in the application.
- 4a) Of the above claim(s) 56-71 and 73 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 43-55 and 72 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

Claims 43-73 are pending as amended 8/14/06, of which 56-71 and 73 are withdrawn from consideration as non-elected invention.

Election/Restrictions

Applicant's election with traverse of group I, claims 43-55 and 72 in the reply filed on 9/29/06 is acknowledged. The traversal is on the ground(s) that: no grounds given. This is not found persuasive because.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 43-55 and 72 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claim 43:

(1) "The extract container" in line 11 has no antecedent basis. This is assumed as "solution container".

(2) Membrane module thickness between 130-170 microns: this is assumed as membrane thickness.

(3) The recitation in steps (b) through (c) does not clearly state the structural relationships between the various structural parts listed.

(4) The parts listed in (d) and further are not structurally linked to the system.

Applicant's specification and drawings also do not provide sufficient details of the structural relations between the parts recited in the claim.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 43-55 and 72 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

In the limitation:

and said module comprises a spiral thin film composite membrane allowing water to pass while retaining other components, and the solution to circulate in the system;

it is unclear how the membrane would allow the solution to recirculate in the system.

Such recirculation would require structure in the system that has nothing to do with the thin film composite membrane used.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 43-55 and 72 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 05-201872 or Lawhon et al (US 4,643,902) with evidence from Gobel et al (US 4,491,600)

Claims 43-55 and 72 recite a reverse osmosis system with a thin film composite membrane module, a prefilter, associated pumps and piping, valves, control valves and instrumentation to run the system; with the recycle of the concentrate from the membrane to the extract solution container. The system is intended for use in concentrating herbal extracts.

JP teaches a system for concentrating herbal extracts using reverse osmosis membranes, with prefilter and associated pumps, valves, etc. JP teaches using reverse osmosis for concentrating the extract especially for extracts which have volatile components. Types of membranes including TFC are also taught.

Lawhon teaches using ultrafiltration and reverse osmosis membranes for concentrating various fruit and vegetable extracts as claimed in figures 1-3. The pre-filtration step to remove suspended matter is seen in column 4 lines 5-10. The ultrafiltration step provides UF concentrate, and permeate; the permeate containing flavor and aroma components, which is concentrated by reverse osmosis, and the reverse osmosis permeate being just solvent (or water) being discarded. Additional

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equipment such as tanks, solenoid valves, power supply, control panels, regulators, rubber O-ring seals, etc., are inherent in the teaching of the reference. The express, implicit, and inherent disclosures of a prior art reference may be relied upon in the rejection of claims under 35 U.S.C. 102 or 103. "The inherent teaching of a prior art reference, a question of fact, arises both in the context of anticipation and obviousness." In re Napier, 55 F.3d 610, 613, 34 USPQ2d 1782, 1784 (Fed. Cir. 1995) (affirmed a 35 U.S.C. 103 rejection based in part on inherent disclosure in one of the references). See also In re Grasselli, 713 F.2d 731, 739, 218 USPQ 769, 775 (Fed. Cir. 1983). The membranes taught are hollow fiber and tubular (for RO: examples). Spiral wound membranes are also tubular. Moreover, the specific membrane structure such as spiral, hollow fiber, or plate type are considered equivalents, as evidenced by the Gobel reference, column 3 lines 55-60 and column 4 lines 5-21.

Lawhon does not specifically teach recirculating the concentrate for further concentration. Gobel teaches that recirculation can be done if desired (column 4 lines 60-68). It would also be obvious to one of ordinary skill in the art at the time of invention to recirculate a stream if one pass is insufficient to obtain the desired concentration; and also for a batch operation.

The systems taught by the references are particularly effective in concentrating herbal extracts, functioning at room temperature, without frothing, enabling removal suspended mater, valves changing to help, enables adequate pressure, on-off switch helps, control functions, etc., are functional language and are not patentable limitations. While features of an apparatus may be recited either structurally or functionally, claims

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directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. In re Schreiber, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429, 1431-32 (Fed. Cir. 1997) (The absence of a disclosure in a prior art reference relating to function did not defeat the Board's finding of anticipation of claimed apparatus because the limitations at issue were found to be inherent in the prior art reference); see also In re Swinehart, 439 F.2d 210, 212-13, 169 USPQ 226, 228-29 (CCPA 1971); In re Danly, 263 F.2d 844, 847, 120 USPQ 528, 531 (CCPA 1959). "[A]pparatus claims cover what a device is, not what a device does." Hewlett-Packard Co. v. Bausch & Lomb Inc., 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990). Ability to scale up is not patentable. Dimensional details of the membrane etc., are not patentable limitations: In Gardner v. TEC Systems, Inc., 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984), the Federal Circuit held that, where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device. In re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966) (The court held that the configuration of the claimed disposable plastic nursing container was a matter of choice which a person of ordinary skill in the art would have found obvious absent persuasive evidence that the particular configuration of the claimed container was significant.). The membrane used by the applicant are also known in the prior art, as admitted by the applicant in the specification, and therefore has no patentable weight.

Response to Arguments

Applicant's arguments filed 8/14/06 have been fully considered but they are not persuasive.

With respect to the argument about Lawhon:

Lawhon et al. does not provide any teachings for a device that provides speedier and effective concentration, avoids froth formation, and avoids fouling and deterioration of the RO membrane.

Lawhon teaches a system for concentrating an extract, which includes reverse osmosis, but does not have the recirculation feature as claimed; however, such recirculation feature is taught by the supporting reference. The membrane taught by the reference appears to be equivalent to the TC membrane – see examples.

About the argument that the Gobel reference does not teach the specific membrane used: Gobel was used for its teaching of the reverse osmosis system/process with or in place of the ultrafiltration system.


The advantages of applicant's system listed in the arguments would be inherent in the system, and similar system is used by the references. Applicant needs to show the structural differences that applicant's system has that are novel/unobvious when compared to the system taught by the references, such as what makes the system speedier, or prevents froth, etc., that is not in the references.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Krishnan S. Menon whose telephone number is 571-272-1143. The examiner can normally be reached on 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda L. Walker can be reached on 571-272-1151. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Krishnan S Menon
Primary Examiner
Art Unit 1723
10/10/06